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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/015,530	12/12/2001	Robert T. Plunkett	046301-046000	7763

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NIXON PEABODY LLP
401 9TH STREET, N.W.
WASHINGTON, DC 20004

EXAMINER	
LI, AIMEE J	
ART UNIT	PAPER NUMBER
2183	
MAIL DATE	DELIVERY MODE
10/08/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/015,530	PLUNKETT ET AL.	
	Examiner	Art Unit	
	AIMEE J. LI	2183	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 December 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *6/16/2008*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-26 have been considered.

2. In view of the Appeal Brief filed on 20 December 2007, PROSECUTION IS HEREBY REOPENED. The new rejection is set forth below.

3. To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

4. A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below.

Information Disclosure Statement

5. The information disclosure statement filed 16 June 2008 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because the IDS provides hundreds of references spanning 22 pages and covering domestic and foreign patents as well as non-patent literature. There is no explanation of the relevance for any of the references and it is not believed that all of these references are relevant to the instant application. It has been placed in the application file, but the information referred to therein has not been considered as to the

merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609.05(a).

Double Patenting

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 1-25 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-5, 14-22, 33, and 48 of U.S. Patent No. 6,836,839 (herein referred to as '839) in view of Hung et al., U.S. Patent Number 6,526,430 (herein referred to as Hung).

8. '839 has variations of all limitations found in claims 1-25, except the limitation, taking claim 1 as exemplary, wherein if the second function is not currently used, one or more of the

second group of heterogeneous computation elements are reconfigurable by the interconnection network to implement the first function" or similar limitation. Hung has taught reconfiguring multiple computation elements to function on different functions based upon need and availability (Hung column 9, line 5 to column 10, line 5). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate Hung in the device of '839 to reduce idle time of computation elements and minimize mode switching, thereby increasing the overall efficiency of the system. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the reconfiguring of Hung in the device of '839 to improve overall efficiency of the system.

9. Claims 1-25 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-6 and 12 of U.S. Patent No. 6,986,021 (herein referred to as '021) in view of in view of Hung et al., U.S. Patent Number 6,526,430 (herein referred to as Hung).

10. '021 has variations of all limitations found in claims 1-25, except the limitation, taking claim 1 as exemplary, wherein if the second function is not currently used, one or more of the second group of heterogeneous computation elements are reconfigurable by the interconnection network to implement the first function" or similar limitation. Hung has taught reconfiguring multiple computation elements to function on different functions based upon need and availability (Hung column 9, line 5 to column 10, line 5). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate Hung in the device of '021 to reduce idle time of computation elements and minimize mode switching, thereby increasing the overall efficiency of the system. Therefore, it would have been obvious to

a person of ordinary skill in the art at the time the invention was made to incorporate the reconfiguring of Hung in the device of '021 to improve overall efficiency of the system.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claim 21 is rejected under 35 U.S.C. 102(b) as being taught by Kopp et al., U.S. Patent number 5,450,557 (herein referred to as Kopp). Kopp has taught a method for allocating hardware resources within an adaptive computing integrated circuit, comprising:

a. in response to first configuration information, configuring a first group of heterogeneous computational elements to form a first functional unit to implement a first function and configuring a second group of heterogeneous computation elements to form a second functional unit to implement a second function (Kopp column 2, line 58 to column 3, line 68 and column 4, lines 1-26); and

b. in response to second configuration information, reconfiguring one or more of the second group of heterogeneous computational elements to implement the first function (Kopp column 2, line 58 to column 3, line 68 and column 4, lines 1-26).

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

14. Claims 1-20 and 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kopp et al., U.S. Patent number 5,450,557 (herein referred to as Kopp) in view of Hung et al., U.S. Patent Number 6,526,430 (herein referred to as Hung).

15. Referring to claim 6, Kopp has taught an adaptive computing integrated circuit, comprising:

a. a plurality of reconfigurable matrices, the plurality of reconfigurable matrices including a plurality of heterogeneous computational units, each heterogeneous computational unit having a plurality of fixed computational elements (Kopp column 2, line 58 to column 3, line 68 and column 4, lines 1-26), the plurality of fixed computational elements including a first computational element having a first architecture and a second computational element having a second architecture, the first architecture distinct from the second architecture (Kopp column 2, line 58 to column 3, line 68 and column 4, lines 1-26), the plurality of heterogeneous computational units coupled to an interconnect network and reconfigurable in response to configuration information (Kopp column 2, line 58 to column 3, line 68 and column 4, lines 1-26); and

b. a matrix interconnection network coupled to the plurality of reconfigurable matrices, the matrix interconnection network operative to reconfigure the plurality of reconfigurable matrices in response to the configuration information for a plurality of operating modes (Kopp column 2, line 58 to column 3, line 68 and column 4, lines 1-26);

c. wherein a first group of heterogeneous computational units is reconfigurable to form a first functional unit to implement a first operating mode (Kopp column 2, line 58 to column 3, line 68 and column 4, lines 1-26); and

d. wherein a second group of heterogeneous computational units is reconfigurable to form a second functional unit to implement a second operating mode (Kopp column 2, line 58 to column 3, line 68 and column 4, lines 1-26).

16. Kopp has not taught wherein if the second operating mode is not currently used, one or more of the second group of heterogeneous computational units are reconfigurable to implement the first operating mode. Hung has taught reconfiguring multiple computation elements to function on different functions based upon need and availability (Hung column 9, line 5 to column 10, line 5). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate Hung in the device of Kopp to reduce idle time of computation elements and minimize mode switching, thereby increasing the overall efficiency of the system. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the reconfiguring of Hung in the device of Kopp to improve overall efficiency of the system.

17. Referring to claim 7, Kopp in view of Hung has taught the adaptive computing integrated circuit of claim 6 wherein if the second operating mode is not currently used, the one or more of the second group of heterogeneous computational units are reconfigurable to implement the first operating mode by forming one or more additional instances of the first functional unit (Hung column 9, line 5 to column 10, line 5).

18. Referring to claim 8, Kopp in view of Hung has taught the adaptive computing integrated circuit of claim 6 wherein if the second operating mode is not currently used, one or more of the first group of heterogeneous computational units and the one or more of the second group of heterogeneous computational units are reconfigurable to form a single functional unit to implement the first operating mode (Hung column 9, line 5 to column 10, line 5).

19. Referring to claim 10, Kopp in view of Hung has taught the adaptive computing integrated circuit of claim 6 wherein if the second operating mode is not currently used, the one or more of the second group of heterogeneous computational units are reconfigurable to implement one or more of the plurality of operating modes other than the second operating mode (Hung column 9, line 5 to column 10, line 5).

20. Claims 1-5, 11-20, and 22-25 contain similar limitations to claims 6-11 and are rejected for similar reasons.

Response to Arguments

21. Applicant's arguments, see Appeal Brief, filed 20 December 2007, with respect to the rejection(s) of claim(s) 1-26 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of the rejection above.

Conclusion

22. Any inquiry concerning this communication or earlier communications from the examiner should be directed to AIMEE J. LI whose telephone number is (571)272-4169. The examiner can normally be reached on M-T 7:00am-4:30pm.

23. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Chan can be reached on (571) 272-4162. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

24. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Eddie P Chan/
Supervisory Patent Examiner, Art Unit 2183

/Aimee J Li/
Primary Examiner, Art Unit 2183
30 September 2008